

## ABSTRACT OF THE DISCLOSURE

A circuit to monitor ac line current through resistors employed to provide a 'step start' in a power supply, including means to monitor the current flowing through the step start resistors, comprising a peak detector, a sample and hold circuit, an analog to digital convertor and a microprocessor. The output of the current monitoring circuit may be employed to abort starting if abnormalities are sensed. The circuit may also be used to identify when the step start resistors need longer cooling time, and to continuously monitor current at times other than during starting. A timing circuit is also incorporated, which senses zero crossings of the voltage input to the power supply, so as to control the timing of the current monitoring circuit. The discrete circuits employed may be replaced by either a digital signal processor integrated circuit or a general-purpose computer implementing the same steps in a suitable algorithm.

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